37th Annual Meeting, APS Division of Plasma Physics
6-10 November 1995, Louisville, KY
Abstract Submittal Form

Deadline: Friday, 7 July 1995

Subject Classification Category 4.1 [ ] Theory [X] Experiment

(Refer to the DPP Subject Category list on page M12.)

Effects of laser smoothing on strongly damped SRS from gasbag plasmas, D.S. Montgomery, R.K. Kirkwood, B.J. MacGowan, J.D. Moody, B.B. Afeyan, R.L. Berger, D.H. Munro, *Lawrence Livermore National Laboratory, Livermore, CA** - We report measurements of stimulated Raman scattering from large scale length plasmas. The plasmas were created using nine beams of the Nova laser to heat a C_5H_{12} gas-filled target which produced a large uniform plasma ($L_n \geq 2$ mm) with 0.1 n_{cr} density and 3 keV electron temperature. A high intensity 351 nm interaction beam was used at f/8 with various intensities and laser smoothing conditions to study SRS. The SRS light was temporally and spectrally resolved in the backscatter and near-backscatter directions. For laser intensity < 10^{15} W/cm^2 a narrow SRS spectra was observed at about 560 nm, corresponding to the average plasma density. At higher intensities, the spectra broadened to shorter wavelengths with $k_{epw}\lambda_{De}$ ~ 0.5. The shorter wavelength SRS is suppressed with 2-3 Å SSD laser smoothing or with low intensity. We will present recent experimental results and analysis of these data.* Work performed under the auspices of the U.S. Department of Energy by the Lawrence Livermore National Laboratory under contract number W-7405-ENG-48.

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Submitted by:

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(Signature of APS Member)

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A faxed copy is not acceptable. This form, or a computer generated form, plus **TWO COPIES,** must be received by **Friday, 7 July, 1995** at the following address:

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